

Food Chains and Webs

Learner Outcome: 4.02.3, 4.02.4, 4.04.9 and GSE LS2-3a,b,c LS2-4a,b, LS4-9b

• In the exercise we will look at energy flow through an ecological system (the Chaparral). You will be given three sheets that contain various producers and consumers. Using this, you will then construct a food web and observe how they are related.

Procedure:

1. Use scissors to cut the pictures apart.
2. Sort the pictures into groups according to energy sources; **producers**, **herbivores** (primary consumers), **carnivores** (secondary consumers), **omnivores** (third order consumers), **scavengers** and **decomposers**.
3. With the colored pencils mark each group a different color. For example mark the energy sources with yellow, the producers with green, the herbivores with blue, the carnivores with orange, the omnivores with red, the scavengers with purple and the decomposers with brown.
4. Use the pictures to form a food web by first arranging them on your desk. Remember that a food web is several food chains linked together. Construct a food web as it would occur in the chaparral. Glue or tape your food web to the back of your sheet. Again use arrows to show that energy is passed from one living organism to another.
5. Look at your food web. If any of your organisms are shaded grey, they have been sprayed with an insecticide (bug spray) such as DDT or chlorodane, or have eaten an organism that has been sprayed with one of these compounds. If animals also eat the organism that has been sprayed, they take in the poison. The animals may not die, but the poison builds up in the organs of its body. Because larger animals eat more food that may be affected with the poison, more poison is naturally concentrated in the larger animal(s).
6. Take a dark colored pencil or canyon and mark all of the organisms in the food web that might get some of the poison into their bodies from their food.